

MACBETH LIGHTING GLASSWARE



Macbeth-Evans Glass Company
Charleroi — Pennsylvania

FOREWORD

APPRECIATING the fact that the architect is desirous of having at his command a selection of materials and patterns which he can use to add the final touch in bringing the building which he has designed to that state of perfection in which he has conceived it, MACBETH-EVANS GLASS COMPANY offers for the consideration of the architect a complete line of lighting glassware for schools, churches, stores and all other types of public buildings.

Macbeth enclosing globes are available in six distinctly different glasses, namely, Monax, Galax, Cremax, Topaz, Lumite and Alba. All of these are physically homogeneous single-layer glasses, and, consequently, are as strong mechanically as it is possible to make glass. Since they are single-layer glasses they are not subject to the differential expansion strains and the consequent breakage when in service, inherent to the multi-layer (cased) enclosing globes.

An extremely high standard of selection for glass quality as well as for uniformity in weight is maintained at all times. Macbeth Illuminating Glassware is free from such defects as streaks, cords, stones, blisters, checks or other imperfections which will impair the strength and appearance or detract from the general quality. The net result of such a high standard of selection is a uniform

installation of attractive appearance and maximum efficiency.

Each type of Macbeth glass possesses desirable illuminating qualities of a very high degree. A trained technical staff, highly specialized in illuminating glassware research, is not only continuously at work seeking to improve Macbeth quality and pioneering into new types of illuminating glasses, but is constantly on the alert to see that improved quality is carefully maintained. As an aid in their work, there is maintained at the Charleroi Works a complete photometric laboratory, the facilities of which are also available to the architect for any special investigations he may desire to have made.

Macbeth enclosing globes further possess the advantages of extremely low depreciation in illuminating efficiency while in service. One-piece in construction, they are as nearly dust-tight as is possible to make a lighting unit. Smooth-surfaced initially, since they are especially resistant to weathering attack, they continue to be smooth-surfaced and, accordingly, dust and dirt do not settle upon them to the extent that they do on less resistant glasses. In the latter even a slight weathering film renders the glass surface such that atmospheric dust adheres strongly to the glass and quickly depreciates its illuminating efficiency.

MACBETH LIGHTING GLASSWARE

IN each of the several illuminating glasses marketed by MACBETH-EVANS GLASS COMPANY, a certain nicety of balance has been struck between the two important illuminating considerations, efficiency and surface brightness, which enables each glass to fulfill to maximum advantage its particular purpose.

MACBETH MONAX is the pioneer white diffusing glass for illuminating purposes. It has, through the medium of constant research in the Macbeth Laboratories, maintained its position as the peer in its field. Highly diffusing in character, Monax also possesses maximum lighting efficiency. Each enclosing globe is stamped "Macbeth Monax."

MACBETH CREMAX is a patented composition yielding a glass of rich creamy tint. Cremax illumination is of a warm, welcoming quality and is essentially decorative in character. Each enclosing globe is stamped "Macbeth Cremax."

MACBETH GALAX semi-indirect lighting enclosing globes combine high efficiency with all the desirable eye-protecting qualities of this type of lighting. They are single-piece units of physically homogeneous texture, but of dual opacity. The bottom of the globe is of a dense white, highly reflecting opacity, assuring low intrinsic brightness with a high percentage of light directed upward. The top of the globe is of much lighter opacity, but sufficient to eliminate lamp filament striations and shadows on the ceiling and walls. It permits a very high proportion of the upward light to be transmitted without material absorption loss. Macbeth Galax should not be confused with either enameled or cased bottom enclosing globes which are in reality not truly semi-indirect either in the character of their distribution of the light or in their glare characteristics. The two opacities found in the top and bottom respectively of a Galax globe result from

a special manufacturing treatment of a single piece of physically homogeneous glass of patented composition. Because of its permanently high lighting efficiency, simplicity of installation and maintenance, and its inherent strength, Macbeth Galax should find application in every place where the semi-indirect type of lighting can be advantageously used. Each enclosing globe is stamped "Macbeth Galax."

MACBETH TOPAZ is a transparent, delicately-tinted yellow glass combining brilliance of appearance with a neutrality of hue which harmonizes readily with any color scheme. It embodies a color within the glass itself entirely free from the harsh green casts so common to most pale yellow tinted glasses without approaching the heaviness of tone characteristic of amber glasses.

MACBETH LUMITE (Crystal) is a clear glass of high luster. It is extremely resistant to weathering. The present vogue of modernistic lighting has brought with it a certain demand for crystal-etched glassware, for which Macbeth Lumite has proven itself unexcelled.

MACBETH ALBA is a translucent diffusing glass specially adaptable for manufacture of heavy pressed ware.

These six inherently different types of glass are available in different shapes ranging from conservative commercial to distinct modernistic.

From a variety of decorations, the architect may select one suitable for almost any interior where decorative treatment is desirable. All colors are permanently fired on the globes, thus becoming an inherent part of the glass.

MACBETH-EVANS GLASS COMPANY offers a comprehensive line of lighting glassware embracing a high standard of quality and varied design, coupled with technical assistance. This service has been planned to assure a complete and efficient lighting installation with a minimum expenditure of time and effort on the part of the architect.

INTERPRETATION OF PHOTOMETRIC DATA

WHEN comparing the photometric data for a number of different illuminating enclosing globes, caution should be exercised to make certain:

(1) That the tests have been made under conditions as nearly approaching the actual conditions of installation as possible.

(2) That the test data have been obtained on a sufficient number of pieces of the ware to make the data actually representative of the manufacturers' product.

To assist prospective purchasers of lighting glassware in making an accurate estimate of the merits of enclosing globe lighting units, the Illuminating Engineering Society, the National Electric Light Association and the Illuminating Glassware Guild have sponsored a procedure for testing, known as I. E. S. specifications for testing diffusing type enclosing glassware, which is based on the above considerations.

The photometric data for the glassware represented herein have been obtained in tests made by the Electrical Testing Laboratories, New York City, in accordance with the I. E. S. specifications.

These specifications for testing differ from the procedure commonly used in the past in three important particulars, namely: 1. The method of selecting the samples for test. 2. The position of the light source within the globe. 3. The cover used over the fitter opening of the globe. These aspects are discussed briefly below.

SELECTION OF SAMPLES

A common practice in the past has been to have photometric tests made on a single piece of glass, which in some cases may have been a specially made sample, and the data thus obtained were submitted as being representative of the manufacturers' product. Such data were obviously questionable and, at best, altogether incomplete. The I. E. S. specifications provide that the selection of the samples for test be made by a representative of the testing laboratory, and that he shall examine and weigh no less than 25 pieces chosen at random from the lot of ware which is to be inspected. From this group of 25 or more globes thus examined, one globe representing the minimum, one the maximum and four of medium weight (six globes in all), shall be selected and forwarded to the test-

ing laboratory for photometric tests. After determining the transmission efficiency for these six units, the globe which most nearly approaches the average efficiency of the six is further tested for distribution characteristics and brightness values. The data thus obtained on this average globe are considered to be as nearly representative an estimate of the illuminating qualities of the manufacturers' product as it is readily possible to obtain.

LAMP POSITION

The position of the light sources within an enclosing globe has a great influence upon the photometric characteristics of the unit. Thus, in general, the closer the lamp is placed to the bottom of the enclosing globe, the greater the transmission efficiency which is obtained. At the same time, however, the brightness values over the bottom will be increased, thus making the globe less desirable from this standpoint.

Because of these possible variations, the I. E. S. specifications have provided that globes of a given diameter shall be tested with the lamp in prescribed position. Where this position has been deviated from in the test, as it may be advisable to do in the case of an elongated or stalactite-shaped globe, this departure must be cited in the test report as an exception.

COVER FOR FITTER OPENING

The resulting illuminating efficiency is likewise influenced by the material used as a cover for the fitter opening of the globe in the test. The cover material adopted as standard in the past was a white blotter having a reflection factor of about 70%. It was recognized that the white blotter reflected more and absorbed less of the light which fell on the fitter opening than would practically all of the canopy materials on the market, but that it did establish a standard on which comparisons could be intelligently based. An investigation of a number of representative canopies disclosed that a material having a reflection factor of 40% more nearly represented the average value for the materials most generally used for fitter canopies. The test reports shown herewith give the values for transmission efficiency, using a material of 40% reflection factor. These values simulate very closely actual installation conditions.

SUGGESTED SPECIFICATIONS FOR LIGHTING GLASSWARE OF MACBETH QUALITY

(1) GENERAL

This specification outlines the detailed requirements of enclosing globes for use in the (name of building). Enclosing globes will be required for all ceiling outlets. These outlets together with respective lamp sizes are shown in the architect's plans for this building.

(2) SHAPE AND SIZE OF GLOBE

The globes shall conform in contour to shape exemplified by MACBETH-EVANS GLASS COMPANY's (name of globe) shown in SWEET'S ARCHITECTURAL CATALOGUES for 1932.

Enclosing globes shall be in accordance with the following schedule of sizes for respective lamp wattages:

Lamp Size	Minimum diam. of globe	Lamp Size	Minimum diam. of globe
100 watts	10 in.	300 watts	16 in.
150 watts	12 in.	500 watts	18 in.
200 watts	14 in.	750 watts	20 in.

(3) MATERIAL

(a) (Specification for Monax Type Glassware)

Glassware to be furnished on this installation shall be of Macbeth Monax or its equivalent. Units shall be of highly diffusing white glass of homogeneous texture throughout.

(a) (Specification for Galax Type Glassware)

Glassware to be furnished on this installation shall be of Macbeth Galax or its equivalent. Units shall be totally enclosed except for fitter opening, and constructed of a uni-layer, physically homogeneous glass in such manner that the bottom of the globe is of a dense white highly reflecting character causing a major portion of the light emitted by the enclosed lamp to be reflected upward according to the semi-indirect lighting principle, while the upper portion of the globe is of a slightly diffusing, highly transmitting character, permitting a large percentage of the upwardly directed light to be transmitted.

(a) (Specification for Cremax Type Glassware)

Glassware to be furnished on this installation shall be of Macbeth Cremax or its equivalent. Units shall be of a rich creamy tint, highly diffusing glass of homogeneous texture throughout.

(b) All of the glassware supplied shall be uniform in quality and shall be free from such imperfections as streaks, cords, stones, blisters, checks, etc., as will impair the strength or appearance or otherwise detract from the general quality of the glassware for lighting purposes.

(c) Glassware shall be highly resistant to attack by weathering, and shall show no sign of disintegration or attack after being immersed in boiling distilled water for two hours.

(d) The glassware shall be mechanically strong.

(e) The glassware shall be properly annealed and free from any internal strains which may cause breakage.

(f) Enclosing globes when suspended from three points shall hang plumb.

(4) PHOTOMETRIC CHARACTERISTICS

The bidder shall submit data showing results of photometric tests on the glassware which he proposes to supply, made by a competent testing laboratory according to the provisions of the "I.E.S. Specifications for Testing Diffusing Type Enclosing Glassware" or,

If the architect so elects he may require the bidder to submit photometric tests made by a competent testing laboratory on samples selected by the architect's representative from the bidder's or manufacturer's warehouse stock, said samples to be selected and tests made exactly in accordance with the "I.E.S. Specifications for Testing Diffusing Type Enclosing Glassware" with the exception that the samples for test shall be selected by the architect's representative instead of a representative of the testing laboratory.

Test reports submitted in accordance with either of the above specifications shall show that the proposed glassware meets the following re-

quirements for illuminating efficiency (ratio of light output of unit to light output of bare lamp) and for surface brightness:

(For Monax Type Glassware.) Efficiency shall be not less than 82%. The maximum surface brightness at any point on the globe in the line of vision when installed shall not exceed 4 candle power per square inch.

(For Galax Type Glassware.) The efficiency shall be not less than 75%. The maximum surface brightness at any point on the globe in the line of vision when installed shall not be in excess of 2 candle power per square inch. It is further specified that the distribution of the light shall be such that not more than 25% of the light output of the bare lamp shall be directed below the horizontal plane passing through the lamp filament.

(For Cremax Type Glassware.) The efficiency shall be not less than 65%. The maximum surface brightness at any point on the globe in the line of vision when installed shall not be in excess of 3 candle power per square inch.

(5) INSPECTION

All globes delivered for this installation will be subject to inspection by the architect or his representative and if any are found not to conform to these specifications, the entire lot or any individual globe may be rejected.

(6) TYPES OF GLOBES AND LOCATIONS

(Under this heading the architect should include in either list or table form the selected types of globes and the locations in which they are to be installed. For data on code numbers which will assure the proper style, size, decoration, etc., see "To Specify" for each type of globe illustrated on the following pages.)

SOME USERS OF MACBETH LIGHTING GLASSWARE AND SOME TYPICAL INSTALLATIONS

Detroit, Michigan

—Capen School
—MacKenzie School
—Denby School
—Post School

St. Louis, Missouri

—West Farrell School
—Dumlach School
—Hadley Vocational School

Oak Park, Illinois

—William Beya School

SCHOOLS

Flint, Michigan

—Calvin Coolidge School

Pontiac, Michigan

—Pontiac High School
—Washington Jr. High School

Upper Merion, Philadelphia

—Merion Square Grade School

Lower Merion, Philadelphia

—Gladwin Grade School

Houston, Texas

—Rufus Cage Elementary School

Cleveland, Ohio

—St. Joseph's Academy

Pittsburgh, Pennsylvania

—Pennsylvania College for Women

Homestead, Pennsylvania

—St. Mary's Magdalene School

OFFICE BUILDINGS, HOSPITALS, HOTELS AND CHURCHES

Springfield Baptist Hospital

—Springfield, Missouri

Presbyterian Church

—New Albany, Indiana

Spring Grove State Hospital

—Catonsville, Maryland

Schoen Building

—Baltimore, Maryland

Guardian Bank

—Detroit, Michigan

Racine County Court House

—Racine, Wisconsin

Garland Building

—Chicago, Illinois

James A. Hearn & Son

Department Store
—New York, New York

Railway Exchange Building

—St. Louis, Missouri

International Shoe Company

—St. Louis, Missouri

St. Mary's Hospital

—St. Louis, Missouri

Lenox Hill Hospital

—New York, New York

Homeopathic Hospital

—Wilmington, Delaware

U. S. Naval Aircraft Building

—Philadelphia, Pennsylvania

Holy Name of Jesus Hospital

—Jackson, Alabama

Hanover Bank Building

—New York, New York

Times Trust Building

—Akron, Ohio

Central Depositors' Bank Bldg.

—Akron, Ohio

Greensburg National Bank

—Greensburg, Indiana

Forestry Building

—Frederickton, New Brunswick

Scottish Rite Temple

—McAlester, Oklahoma

First National Bank Building

—Oklahoma City, Oklahoma

Reading Y. M. C. A. Building

—Reading, Pennsylvania

Canadian Bank of Commerce

—Toronto, Ontario, Canada

Hale Brothers Department Store

—San Jose, California

U. S. Marine Hospital

—San Francisco, California

Prominent among the recent semi-indirect Galax installations are the Potomac Electric Power Company Building, Washington, D. C., and the Ohio Power Company, Canton, Ohio, Gulf Building, Pittsburgh, Pa., and additions to Wellesley College, Wellesley, Massachusetts.

SIMPLIFIED ILLUMINATION CALCULATION PROCEDURE FOR MACBETH ILLUMINATING GLASSWARE

FIRST

Determine foot-candles required from Table I.

SECOND

Determine "Conditions Factor" for the interior, whether "Favorable," "Average" or "Unfavorable," from Table II, following page. The "Conditions Factor" will depend upon the room proportions, color of ceiling and upper walls, and the maintenance of equipment. Typical "Average Conditions Factor" consists of:

- Room proportions.....
- Width approximately twice ceiling height
- Color of ceiling and walls.....Medium
- Maintenance of equipment.....Fair

The "Conditions Factor" becomes more "Favorable" as the width of the interior increases in proportion to its height; as the color of ceiling and upper walls becomes lighter; and as the maintenance of equipment improves.

THIRD

Decide which type of illuminating glassware (Monax, Galax or Cremax) is desired.

FOURTH

Decide mounting height. Ordinarily, an overall fixture length (ceiling to underside of enclosing globe) of one-fourth ceiling height may be used for all Macbeth enclosing globes. Ceiling type fitters should be used on low ceilings.

FIFTH

Locate in first column, Table II, the contemplated "Area Per Outlet" or "Approximate Spacing" and further narrow this down to the "Conditions Factor" determined in second step. Then traverse Table II horizontally to the right until the desired foot-candle intensity (as determined in first step) is located in the correct glassware section. If not so found, then go to a closer spacing until desired foot-candle intensity is located. Directly above in the column heading is the required lamp size.

TABLE I. LIGHTING INTENSITIES FOR GENERAL ILLUMINATION
OF COMMERCIAL INTERIORS

Specific Commercial Interiors	Foot-Candles		Specific Commercial Interiors	Foot-Candles	
	Recommended	Minimum		Recommended	Minimum
Auditoriums.....	5	3	Lunch Rooms.....	12	8
Automobile Show Rooms.....	15	10	Markets.....	12	8
Bank Lobbies.....	10	6	Office Buildings.....		
Barber Shops.....	15	10	Private and General.....	15	10
Churches.....			Same—no close work.....	10	8
Auditorium.....	3	2	File Room.....	6	4
Sunday School Room.....	8	5	Corridors.....	5	3
Club Rooms.....			Restaurants.....	8	5
Lounge.....	5	3	Schools.....		
Reading Room.....	12	8	Auditorium.....	8	5
Court Rooms.....	10	6	Class Rooms, Library and Office.....	12	8
Dance Halls.....	6	4	Corridors and Stairways.....	5	3
Depot Waiting Rooms.....	8	5	Drawing Rooms.....	25	15
Drafting Rooms.....	25	15	Manual Training.....	12	8
Gymnasiums.....			Laboratories.....	12	8
Main Exercising Floor.....	12	8	Sewing Rooms.....	25	15
Swimming Pool.....	8	5	Study.....	12	8
Shower and Locker Rooms.....	6	4	Stores—Department and Large.....		
Halls, Passageways in Interiors.....	3	2	Specialty.....		
Hospitals.....			Main Floors.....	15	10
Corridors.....	3	2	Basement Store.....	15	10
Private Rooms.....	8	5	Other Floors.....	12	8
Wards (with local illumination).....	5	3	Stores—Medium Size.....		
Laboratories.....	15	10	Clothing.....	15	10
Hotels.....			Drug.....	15	10
Lobby.....	8	5	Dry Goods.....	15	10
Dining Room.....	6	4	Grocery.....	12	8
Bed Rooms.....	8	5	Furniture.....	15	10
Corridors.....	3	2	Shoe.....	15	10
Libraries.....			Confectionery.....	12	8
Reading Rooms.....	12	8	Meat.....	12	8
Lodge Rooms.....	6	4	Toilet and Wash Rooms.....	6	4

TABLE II. DETERMINATION OF LAMP SIZE AND OUTLET SPACING

Using the proper section for glassware selected, the mounting height* and conditions factor decided upon, choose such spacing and lamp size as will give the desired foot-candle intensity	Macbeth Monax					Macbeth Cremax					Macbeth Galax For semi-indirect lighting				
	Average foot-candles					Average foot-candles					Average foot-candles				
	100-watt	150-watt	200-watt	300-watt	500-watt	100-watt	150-watt	200-watt	300-watt	500-watt	100-watt	150-watt	200-watt	300-watt	500-watt
Area per outlet or †approximate spacing															
55 to 65 sq. ft. or 7¼x7¾-ft. spacing	Favorable Average Unfavorable	8-10 6-7 4-5	12-15 9-12 6-8	18-23 12-16 9-11	500-watt	5-7 3-5 2.5-3.0	9-12 6-9 4-6	13-18 8-13 5-8	300-watt	10-14 7-10 4-6	15-22 11-15 7-9	300-watt	500-watt		
65 to 75 sq. ft. or 8½x8½-ft. spacing	Favorable Average Unfavorable	7-8 5.0-5.5 3.0-3.5	11-15 8-11 5-7	15-20 11-15 7-9		4-6 3-4 2-3	8-11 5-8 3.5-5.0	11-15 7-11 5-7		9-13 6-9 4-6	13-19 9-13 6.5-8.0				
75 to 85 sq. ft. or 9x9-ft. spacing	Favorable Average Unfavorable	6-7 4.5-5.0 3.0-3.5	10-13 7-10 5-6	13-18 10-13 6-8		3.5-5.0 2.5-3.5 1.5-2.5	7-9 4-7 3-4	8-12 6-8 4-6		8-11 5-8 3.5-5.0	11-17 8-11 6-7				
85 to 95 sq. ft. or 9½x9½-ft. spacing	Favorable Average Unfavorable	4.5-6.0 4.0-4.5 2.5-3.0	8-11 6-8 4-5	11-16 8-10 6-7	18-25 12-18 8-12	3-4 2-3 1.5-2.0	6-8 4-6 2.5-4.0	8-11 5-8 4-5	14-19 9-14 6-9	7-10 5-7 3-4	10-14 7-9 5-6	17-24 11-17 7-11			
95 to 110 sq. ft. or 10x10-ft. spacing	Favorable Average Unfavorable	4.0-5.5 3.5-4.0 2.0-2.5	7-10 5-7 3-4	10-14 7.5-9.0 5-6	16-22 11-16 7-10	3.0-3.5 2.0-2.5 1.5-2.0	5-7 3-5 2.5-3.0	7-10 5-7 3.5-5.0	12-17 8-12 5-8	6-9 4-6 2.5-4.0	9-12 6-8 4.5-5.0	15-21 9-15 6-9			
110 to 125 sq. ft. or 11x11-ft. spacing	Favorable Average Unfavorable	4-5 3.0-3.5 2.0-2.5	6-9 4.5-6.0 3-4	9-12 7.0-8.5 4.5-5.5	14-20 10-14 7-9	2.5-3.5 1.5-2.0 1.0-1.5	4-6 3-4 2-3	6-9 4-6 5-7	11-15 7-11 5-7	5-7 4-5-5.0 2.5-3.0	8-11 5.5-7.0 4.0-4.5	13-19 8-13 6-8			
125 to 145 sq. ft. or 11½x11½-ft. spacing	Favorable Average Unfavorable	3.5-4.5 2.5-3.5 1.5-2.0	5.5-8.0 4-5 2.5-3.5	8-11 6-7 3.5-4.0	12-17 9-13 6-8	2-3 1.0-1.5	3.5-5.0 2.5-3.5 1.5-2.5	5-7 3.5-5.0 2.5-3.5	9-13 6-9 4-6	5-6 3.5-4.5 2-3	7-9 5-6 3.5-4.0	11-16 7-11 5-7			
145 to 170 sq. ft. or 12½x12½-ft. spacing	Favorable Average Unfavorable	3-4 2.0-2.5 1.0-1.5	5-6 3.5-4.0 2-3	7-10 6-7 3.5-4.0	10-15 8-10 5-7	2-3 1.5-2.0 1.0-1.5	3.5-4.0 2.0-3.5 1.5-2.0	4-6 3-4 2-3	8-11 5-8 3.5-5.0	2-3 1.5-2.0 1.0-1.5	6-8 4-5-5.0 3.0-3.5	9-14 6-9 4-6	17-25 11-17 7-11		
170 to 200 sq. ft. or 13½x13½-ft. spacing	Favorable Average Unfavorable	2-3 1.5-2.0 1.0-1.5	4.5-5.5 3.0-3.5 2.0-2.5	6-8 5-6 3.0-3.5	9-12 6-9 4-6	1-5-2-5 1.0-1-5	3-4 2.5-3.0 1.5-2.0	5-7 4-6 2.5-4.0	7-9 4-7 3-4	4-5 2.5-3.0 1.5-2.0	5-6 4-0-4-5 2.5-3.0	8-11 5-8 3.5-5.0	14-21 9-14 6-9		
200 to 230 sq. ft. or 14¾x14¾-ft. spacing	Favorable Average Unfavorable	4-5 2.5-3.0 1.5-2.0	5-6 4.0-4.5 2.5-3.0	8-11 5-8 3.5-4.5	10-14 7-9	.....	2.5-3.5 1.5-2.5 1.5-2.0	3-4 2-3 1.5-2.0	6-8 4-6 2.5-4.0	3-4 2.0-2.5 1.0-1.5	4-5 3.5-4.0 2.0-2.5	7-10 4-7 3-4	12-18 8-12 5-8		
230 to 260 sq. ft. or 15½x15½-ft. spacing	Favorable Average Unfavorable	3.5-4.0 2.0-2.5 1.5-2.0	4.0-4.5 3.5-4.0 2.0-2.5	7-10 4.5-7.0 3-4	12-17 9-13 6-8	.....	2-3 1.5-2.0	3-4 2.0-2.5 1.5-2.0	5-7 3-5 2.5-3.0	2.5-3.5 3.5-4.0 1.5-2.0	3.5-4.0 3.0-3.5 2.0-3.5	6-9 3.5-6.0 3.0-3.5	10-14 7-10 5-7		
260 to 300 sq. ft. or 16¾x16¾-ft. spacing	Favorable Average Unfavorable	3-4 1.5-2.0 1.0-1.5	3.5-4.0 3.0-3.5 1.5-2.0	6-8 4-5 3-4	10-15 8-10 4-6	.....	2.5-3.0 1.5-2.0 1.0-1.5	2.5-3.0 1.5-2.0 1.2	4-6 3-4 2-3	2-3 1.0-1.5	3-4 2.5-3.0 2.5-3.0	5-7 3-5 2.0-2.5	9-13 6-9 4-6		
300 to 340 sq. ft. or 18x18-ft. spacing	Favorable Average Unfavorable	.....	.....	.....	4-6 3-5-4.0 6-9	.....	3.5-4.0 2.5-3.0 2-5-3.0	3.5-5.0 2.5-3.0 1.5-2.5	7-9 4-6 3-4	.....	3-4 2.0-2.5 2.5-3.0	4-6 3-4 2.0-2.5	8-10 5-8 3-4		
340 to 390 sq. ft. or 19x19-ft. spacing	Favorable Average Unfavorable	.....	.....	.....	4-6 3.0-3.5 1.0-1.5	.....	3.0-3.5 2.0-2.5 1.0-1.5	4-6 3.0-3.5 1.5-2.5	3-4 2-3 1.5-2.0	.....	2.5-3.0 3.5-4.5 2.5-3.0	5-7 3-4 2.0-2.5	7-10 4-7 3-4		
390 to 440 sq. ft. or 20½x20½-ft. spacing	Favorable Average Unfavorable	.....	.....	.....	4-6 3.5-5.5 2.0-2.5	.....	2.5-3.0 1.5-2.0 1.0-1.5	3-5-5.5 2.5-3.0 1.5-2.5	3-4 1.5-3.0 1.0-1.5	.....	2.0-2.5 1.0-1.5 1.5-2.0	3-5 4-6 2.0-2.5	7-10 3.5-4.5 2.5-3.5		
440 to 500 sq. ft. or 21¾x21¾-ft. spacing	Favorable Average Unfavorable	.....	.....	.....	3-4 1.0-1.5 2-3	.....	2.0-2.5 1.0-1.5	3-4 1.5-2.5	2.5-3.5 1.5-2.5 .....	.....	1.5-2.5	3-4 2-3	5-8 3-5 2.5-3.0		

"The MODERNISTIC"

THE "Modernistic" displays modern French influence combined with the popular reverse "set back." The design is restrained in form and decoration, without bizarre characteristics and is thus suitable for use in almost any location.

In the table below the number D-144 indicates a gray, fired-color tint applied to the elaboration in Monax glass. On Cremax glass the same number indicates a brown, fired tint. Satin Topaz indicates a Topaz natural-colored glass with satin-etched and high-lighted finish.

TO SPECIFY

The architect should write into his own specification, the data under the headings "Mould No." and "Description" for the particular globe desired. This will automatically assure the selected style, size, color, glass and decoration. For example, "Macbeth Modernistic 5698 D-144 Cremax" will designate the design shown in Cremax glass with a brown, fired-color tint applied to the decoration of a globe 6 in. in diameter, $9\frac{1}{16}$ in. in depth, with a fitter 4 in. in diameter.

Mould No.	Description	Diam., in.	Depth, in.	Fitter diam., in.	*Lamp position	Recommended wattage
5698	D-144 Cremax	6	$9\frac{1}{16}$	4	1 in. above	100
5695	D-144 Cremax	$8\frac{1}{16}$	$13\frac{1}{2}$	6	$\frac{1}{2}$ in. above	150
5980	D-144 Cremax	10	$16\frac{3}{4}$	6	$\frac{1}{4}$ in. below	200
5696	D-144 Cremax	12	20	8	1 in. below	300
5697	D-144 Cremax	16	27	12	3 in. below	500
5698	Satin Topaz	6	$9\frac{1}{16}$	4	1 in. above	100
5695	Satin Topaz	$8\frac{1}{16}$	$13\frac{1}{2}$	6	$\frac{1}{2}$ in. above	150
5980	Satin Topaz	10	$16\frac{3}{4}$	6	$\frac{1}{4}$ in. below	200
5696	Satin Topaz	12	20	8	1 in. below	300
5697	Satin Topaz	16	27	12	3 in. below	500
5698	D-144 Monax	6	$9\frac{1}{16}$	4	1 in. above	100
5695	D-144 Monax	$8\frac{1}{16}$	$13\frac{1}{2}$	6	$\frac{1}{2}$ in. above	150
5980	D-144 Monax	10	$16\frac{3}{4}$	6	$\frac{1}{4}$ in. below	200
5696	D-144 Monax	12	20	8	1 in. below	300
5697	D-144 Monax	16	27	12	3 in. below	500

*Lamp position—Represents the distance in inches of the lamp contact above or below the plane of the fitter screws in the fixture.

NOTE—Due to the very large size and great weight of globe No. 5697 safety should be insured by means of auxiliary support such as an inside safety holder, ring and chains, rods or other safety devices recommended by the fixture manufacturer.



"The CUBISTIC"

AGAIN modernism with cubist influence and the double "set back." Simplicity is the keynote of this design which is suitable for almost any location where modernistic lighting is desired.

In the table below, D-120 indicates a leaded effect upon the vertical ribs of the globe—black is used with Monax globes and brown with Cremax. K-309 indicates a brown modernistic decoration in negative and positive etching on alternate panels. All colors are permanently fired on the glass.

TO SPECIFY

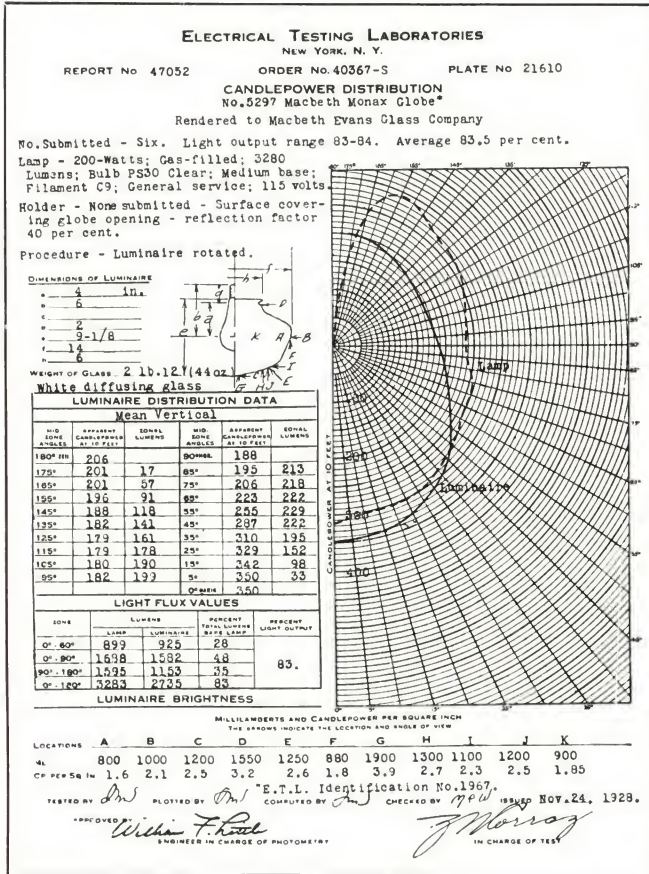
The architect should write into his own specification, the data under the headings "Mould No." and "Description." This will automatically assure the selected style, size, color, glass and decoration. For example, "Macbeth Cubistic 5677 D-120 Monax" will designate the decoration shown in Monax with black vertical lines upon a globe 12 in. in diameter, 16 $\frac{3}{8}$ in. in depth, with a fitter 6 in. in diameter.

Mould No.	Description	Diam., in.	Depth, in.	Fitter diam., in.	*Lamp position, below, in.	Recommended wattage
5676	D-120 Cremax	9 $\frac{1}{4}$	12 $\frac{1}{2}$	4	2	100
5677	D-120 Cremax	12	16 $\frac{3}{8}$	6	2 $\frac{1}{2}$	200
5678	D-120 Cremax	14	19	6	2 $\frac{1}{2}$	300
5676	D-120 Monax	9 $\frac{1}{4}$	12 $\frac{1}{2}$	4	2	100
5677	D-120 Monax	12	16 $\frac{3}{8}$	6	2 $\frac{1}{2}$	200
5678	D-120 Monax	14	19	6	2 $\frac{1}{2}$	300
5676	K-309 Cremax	9 $\frac{1}{4}$	12 $\frac{1}{2}$	4	2	100
5677	K-309 Cremax	12	16 $\frac{3}{8}$	6	2 $\frac{1}{2}$	200
5678	K-309 Cremax	14	19	6	2 $\frac{1}{2}$	300

*Lamp position—Represents the distance in inches of the lamp contact below the plane of the fitter screws in the fixture.

"The SEVILLE"

THE Seville may be obtained in all sizes in Monax or Cremax glass, plain and decorated. Below is shown a reproduction of Electrical Testing Laboratories' report on 5297 Monax, representative for all sizes in Monax glass, tested according to the I.E.S. specifications.



TO SPECIFY

The architect should write into his own specification, data tabulated below under headings "Mould No." and "Description," thus, "Macbeth Seville 5340 Cremax." The brown, printed decoration with color permanently fired in the glass as shown in third illustration may be applied to all sizes in either Monax or Cremax glass by adding J-103 and glass desired after the mould number. For example, "Macbeth Seville 5297 J-103 Monax 14 in." The banded decoration shown in lower illustration may be applied to all sizes in blue, green, brown or gray by adding D-56 and color desired, as, "Macbeth Seville 5296 D-56 Cremax Brown 12x6 in."

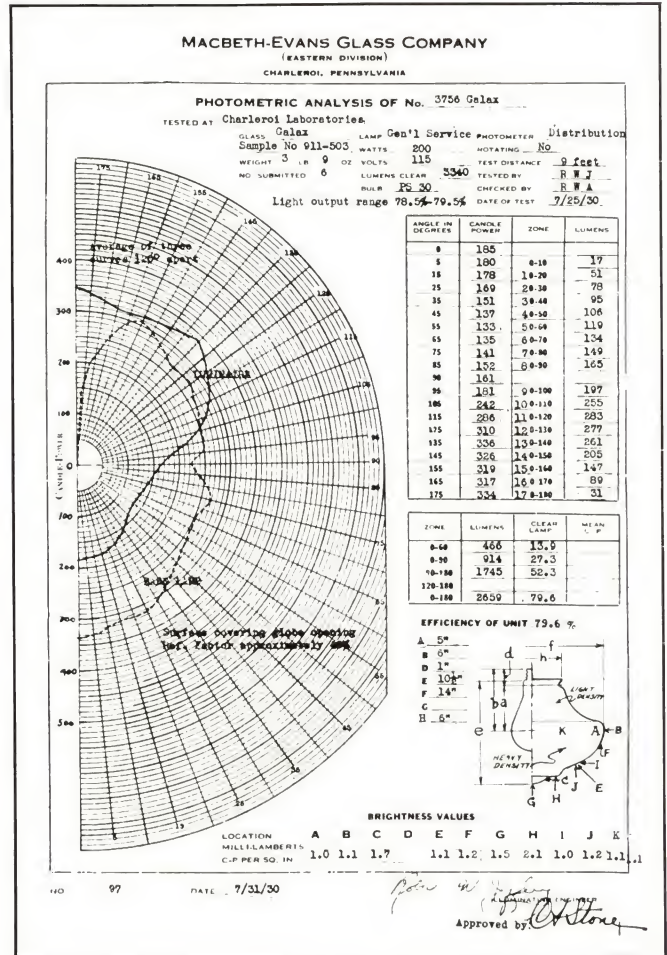
Mould No.	Description	Diam., in.	Depth, in.	Fitter diam., in.	*Lamp position, above, in.	Recommended wattage
5294A	Monax or Cremax	8 1/2	5 1/16	4	1 1/2	100
5340	Monax or Cremax	9	6 1/2	4	1 1/2	100
5295	Monax or Cremax	10	6 1/2	4	1 1/2	100
5296	Monax or Cremax	12	7 3/4	6	2	150
5296A	Monax or Cremax	12	7 3/4	4	1 1/2	150
5297	Monax or Cremax	14	9	6	2	200
5298	Monax or Cremax	16	10 1/4	6	2	300
5645A	Monax or Cremax	18	11 3/8	6	3	500
5666	Monax or Cremax	20	12 3/4	8	3	750
5294A	J-103 Monax or Cremax	8 1/2	5 1/16	4	1 1/2	100
5340	J-103 Monax or Cremax	9	6 1/2	4	1 1/2	100
5295	J-103 Monax or Cremax	10	6 1/2	4	1 1/2	100
5296	J-103 Monax or Cremax	12	7 3/4	6	2	150
5296A	J-103 Monax or Cremax	12	7 3/4	4	1 1/2	150
5297	J-103 Monax or Cremax	14	9	6	2	200
5298	J-103 Monax or Cremax	16	10 1/4	6	2	300
5645A	J-103 Monax or Cremax	18	11 3/8	6	3	500
5666	J-103 Monax or Cremax	20	12 3/4	8	3	750
5294A	D-56 Monax or Cremax	8 1/2	5 1/16	4	1 1/2	100
5340	D-56 Monax or Cremax	9	6 1/2	4	1 1/2	100
5295	D-56 Monax or Cremax	10	6 1/2	4	1 1/2	100
5296	D-56 Monax or Cremax	12	7 3/4	6	2	150
5296A	D-56 Monax or Cremax	12	7 3/4	4	1 1/2	150
5297	D-56 Monax or Cremax	14	9	6	2	200
5298	D-56 Monax or Cremax	16	10 1/4	6	2	300
5645A	D-56 Monax or Cremax	18	11 3/8	6	3	500
5666	D-56 Monax or Cremax	20	12 3/4	8	3	750

*Lamp position—Represents the distance in inches of lamp contact above plane of fitter screws in fixture.



"The HALLSTADT" SEMI-INDIRECT

THE Semi-Indirect Hallstadt, manufactured from Macbeth Galax Glass, was designed to utilize most effectively the upward component of light reflected from the dense white reflecting lower portion of the globe. It is freely transmitted through the light opacity slightly diffusing upper section of the globe, its freedom unhampered by restricting angles. Below is shown a reproduction of testing laboratories' report on 3756 Galax. The results obtained are representative for all sizes.



TO SPECIFY

The architect should write into his own specification the data tabulated below under the headings "Mould No." and "Description," thus, "Macbeth Semi-Indirect 4309A Galax." The light-etched decoration shown in the lower illustration may be obtained in brown, or gray, fired colors in all sizes by adding K-325 and the color desired, after the mould number. For example, "3756 K-325 Galax Gray 14 in."

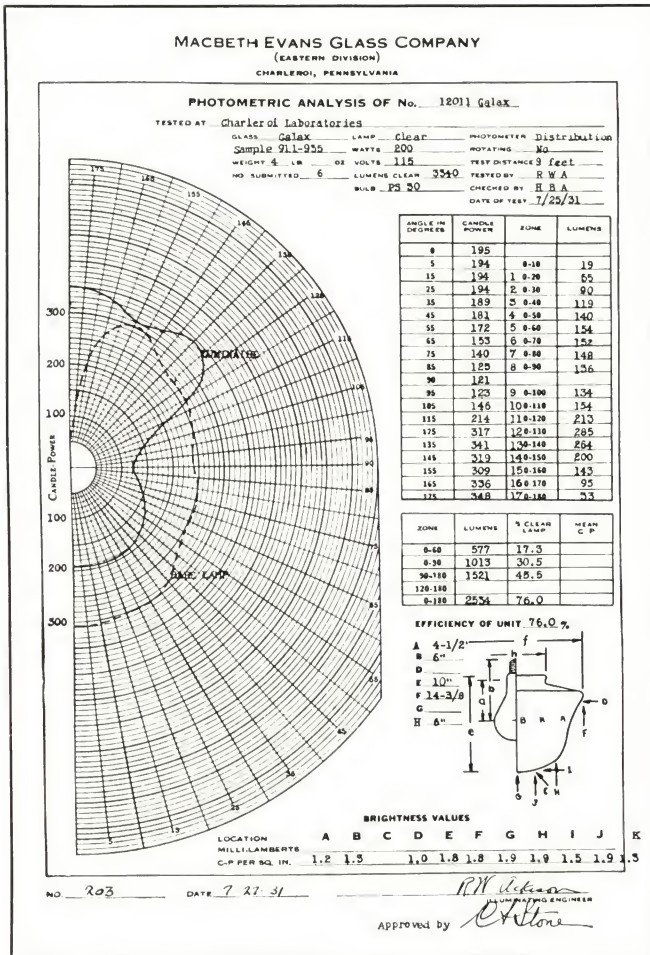
Mould No.	Description	Diam., in.	Depth, in.	Fitter diam., in.	*Lamp position, above, in.	Recommended wattage
4385	Galax	10	7 3/8	4	1 1/2	100
4309	Galax	12	9 1/2	6	1 1/4	150
4309A	Galax	12	9 1/2	4	1 1/4	150
3756	Galax	14	10	6	1	200
4386	Galax	16	12	6	1	300
5667	Galax	18	13 1/8	8	zero	500
4385	K-325 Galax	10	7 3/8	4	1 1/2	100
4309	K-325 Galax	12	9 1/2	6	1 1/4	150
4309A	K-325 Galax	12	9 1/2	4	1 1/4	150
3756	K-325 Galax	14	10	6	1	200
4386	K-325 Galax	16	12	6	1	300
5667	K-325 Galax	18	13 1/2	8	zero	500

*Lamp position—Represents the distance in inches of the lamp contact above the plane of the fitter screws in the fixture. Zero indicates the lamp contact is in the same plane as the fitter screws in the fixture.
See page 12 for Monax and Cremax.

"The ROMANESQUE"

SEMI-INDIRECT

THE Romanesque, a new shape manufactured from Macbeth Galax, (semi-indirect) glass was designed to utilize most effectively the upward component of light reflected from the dense white reflecting lower portion of the globe. The upper section from the shoulder to the fitter opening of the globe is of light opacity and slightly diffusing in character. Below is shown a reproduction of testing laboratory report on 12011 Galax. The results obtained from this test are representative for all sizes. NOTE—These globes in all sizes may be obtained in Monax glass, plain and decorated.



TO SPECIFY

The architect should write into his own specification, the data tabulated below under the headings "Mould No." and "Description," thus, "Macbeth Semi-Indirect Romanesque 12011 Galax." The light-etched decoration shown in the lower illustration may be obtained in brown, or gray, fired colors in all sizes by adding K-330 and the color desired after the mould number, as, "12013 K-330 Galax Brown 18 in." If required in Monax, white diffusing glass, substitute the word Monax for Galax.

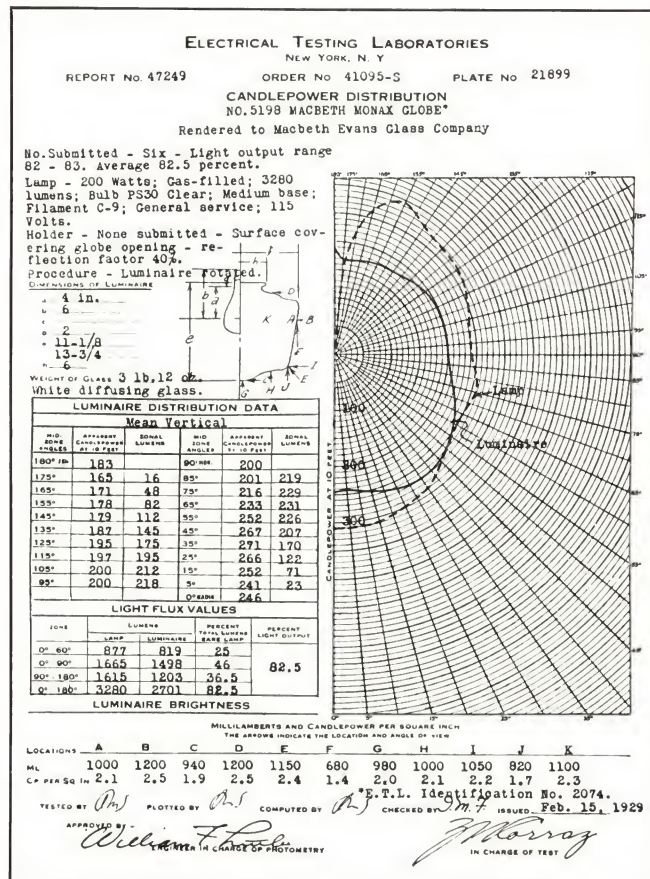
Mould No.	Description	Diam., in.	Depth, in.	Fitter diam., in.	*Lamp position, above, in.	Recommended wattage
12009	Galax or Monax	10	7 1/16	4	1 1/2	100
12010	Galax or Monax	12	8 3/4	6	1 1/2	150
12011	Galax or Monax	14	10	6	1 1/2	200
12012	Galax or Monax	16	11 3/8	6	2	300
12013	Galax or Monax	18	12 1/2	8	2	500
12009	K-330 Galax or Monax	10	7 1/16	4	1 1/2	100
12010	K-330 Galax or Monax	12	8 3/4	6	1 1/2	150
12011	K-330 Galax or Monax	14	10	6	1 1/2	200
12012	K-330 Galax or Monax	16	11 3/8	6	2	300
12013	K-330 Galax or Monax	18	12 1/2	8	2	500

*Lamp position—Represents the distance in inches of the lamp contact above the plane of the fitter screws in the fixture.



"The RAVENNA"

THE Ravenna, in a complete range of sizes, may be obtained in Monax glass, plain or decorated. Below is shown a reproduction of Electrical Testing Laboratories' report on 5198 Monax, tested according to the I.E.S. specifications. The results obtained from this test are representative for all sizes. Additional data will be furnished upon request.



TO SPECIFY

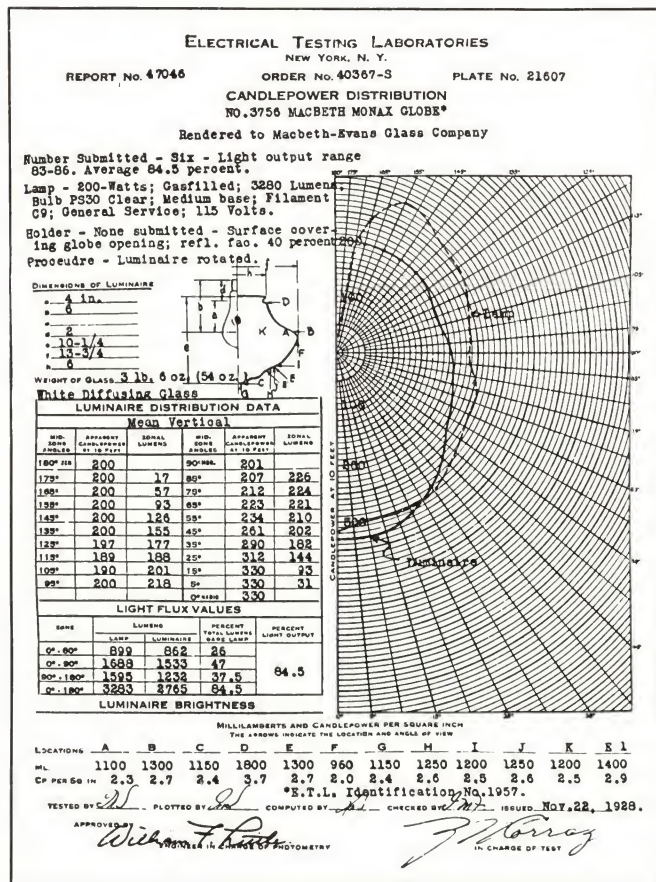
The architect should write into his own specification, the data tabulated below under the headings "Mould No." and "Description," thus, "Macbeth Ravenna 5179 Monax 8 in." The brown, light-etched decoration shown in the lower illustration, with color permanently fired on the glass, may be applied to all sizes by adding the number K-314 after the mould number. For example, "Macbeth Ravenna 5179 K-314 Monax 8 in."

Mould No.	Description	Diam., in.	Depth, in.	Fitter diam., in.	*Lamp position, above, in.	Recommended wattage
5179	Monax	8	6	4	1 1/2	100
5881	Monax	9	6 3/4	4	1 1/2	100
5196	Monax	10	7 1/2	6	2	100
5196A	Monax	10	7 1/2	4	1 1/2	100
5197	Monax	12	9 1/2	6	2	150
5197A	Monax	12	9 1/2	4	1 1/2	150
5198	Monax	14	11 1/8	6	2	200
5199	Monax	16	12 3/8	6	2	300
12000	Monax	18	14 3/4	8	2	500
5179	K-314 Monax	8	6	4	1 1/2	100
5881	K-314 Monax	9	6 3/4	4	1 1/2	100
5196	K-314 Monax	10	7 1/2	6	2	100
5196A	K-314 Monax	10	7 1/2	4	1 1/2	100
5197	K-314 Monax	12	9 1/2	6	2	150
5197A	K-314 Monax	12	9 1/2	4	1 1/2	150
5198	K-314 Monax	14	11 1/8	6	2	200
5199	K-314 Monax	16	12 3/8	6	2	300
12000	K-314 Monax	18	14 3/4	8	2	500

*Lamp position—Represents the distance in inches of the lamp contact above the plane of the fitter screws in the fixture.

"The HALLSTADT"

THE Hallstadt, in a complete range of sizes, may be obtained in Monax or Cremax glass, plain or decorated. Below is shown a reproduction of Electrical Testing Laboratories' report on 3756 Monax, tested according to I.E.S. specifications. The results obtained from this test are representative for all sizes in Monax glass. Additional data will be furnished upon request.



TO SPECIFY

The architect should write into his own specification, the data tabulated below under the headings "Mould No." and "Description," thus, "Macbeth Hallstadt 4309 Monax." The brown, printed decoration with color permanently fired on the glass as shown in the bottom illustration may be applied to all sizes by adding the number J-95 after the mould number. For example, "Macbeth Hallstadt 3756 J-95 Cremax 14 in."

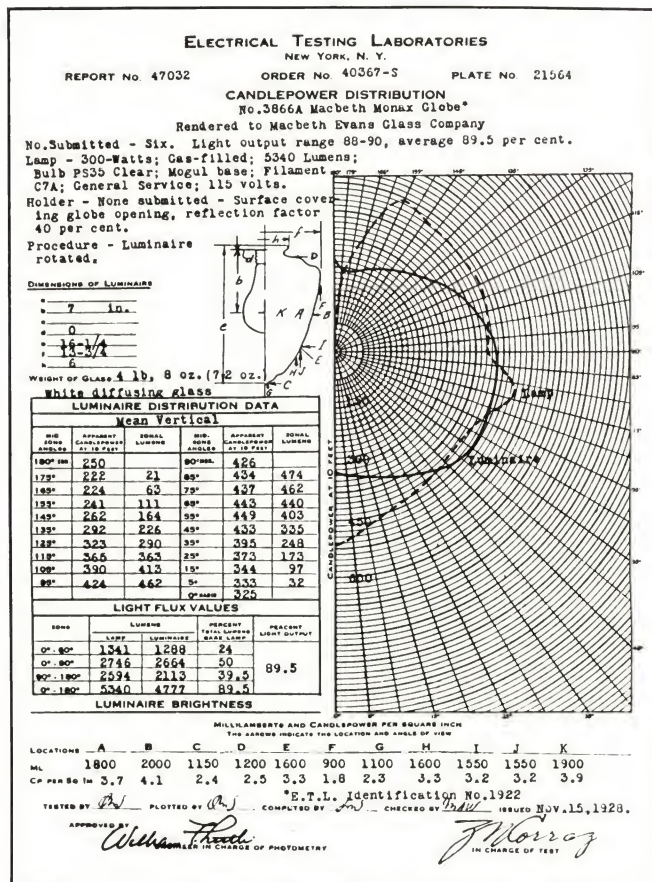
Mould No.	Description	Diam., in.	Depth, in.	Fitter diam., in.	*Lamp position, above, in.	Recommended wattage
4385	Monax or Cremax	10	7 $\frac{5}{8}$	4	1 $\frac{1}{2}$	100
4309	Monax or Cremax	12	9 $\frac{1}{2}$	6	2	150
4309A	Monax or Cremax	12	9 $\frac{1}{2}$	4	1 $\frac{1}{2}$	150
3756	Monax or Cremax	14	10	6	2	200
4386	Monax or Cremax	16	12	6	2	300
5667	Monax or Cremax	18	13 $\frac{1}{2}$	8	3	500
4385	J-95 Monax or Cremax	10	7 $\frac{5}{8}$	4	1 $\frac{1}{2}$	100
4309	J-95 Monax or Cremax	12	9 $\frac{1}{2}$	6	2	150
4309A	J-95 Monax or Cremax	12	9 $\frac{1}{2}$	4	1 $\frac{1}{2}$	150
3756	J-95 Monax or Cremax	14	10	6	2	200
4386	J-95 Monax or Cremax	16	12	6	2	300
5667	J-95 Monax or Cremax	18	13 $\frac{1}{2}$	8	3	500

*Lamp position—Represents the distance in inches of the lamp contact above the plane of the fitter screws in the fixture.
See page 9 for Semi-Indirect Galax.



"The ACORN"

THE Acorn, in a complete range of sizes, may be obtained in plain or decorated Monax glass. Below is shown a reproduction of Electrical Testing Laboratories' report on 3866A Monax, tested according to I.E.S. specifications. The results obtained from this test are representative for all sizes. Additional data will be furnished upon request.



TO SPECIFY

The architect should write into his own specification, the data tabulated below under the headings "Mould No." and "Description," thus, "Macbeth Acorn 3869 Monax." The light-etched decorations with colors permanently fired on the glass may be applied to all sizes. For the center decoration add K-181 after the mould number. For example, "Macbeth Acorn 3870 K-181 Monax Gray." K-181 may be ordered in either gray or brown. For the bottom decoration which is furnished in brown or gray add K-307. For example, "Macbeth Acorn 3866A K-307 Monax Brown."

Mould No.	Description	Diam., in.	Depth, in.	Fitter diam., in.	*Lamp position	Recommended wattage
3870	Monax	8	9 3/8	4	zero	100
3864	Monax	10	11 3/8	6	zero	150
3869	Monax	12	14	6	zero	200
3866A	Monax	14	16 1/2	6	zero	300
3870	K-181 Monax	8	9 3/8	4	zero	100
3864	K-181 Monax	10	11 3/8	6	zero	150
3869	K-181 Monax	12	14	6	zero	200
3866A	K-181 Monax	14	16 1/2	6	zero	300
3870	K-307 Monax	8	9 3/8	4	zero	100
3864	K-307 Monax	10	11 3/8	6	zero	150
3869	K-307 Monax	12	14	6	zero	200
3866A	K-307 Monax	14	16 1/2	6	zero	300

*Lamp position—Zero indicates that the lamp contact is in the same plane as the fitter screws of the fixture.

"The GOTHIC"

THE Gothic, especially suitable for church lighting, is available in a complete range of sizes in both Monax and Cremax glass.

TO SPECIFY

The architect should write into his own specification, the data tabulated under the headings "Mould No." and "Description," thus, "Macbeth Gothic 3804 Monax" (or Cremax if the more colorful glass is desired).

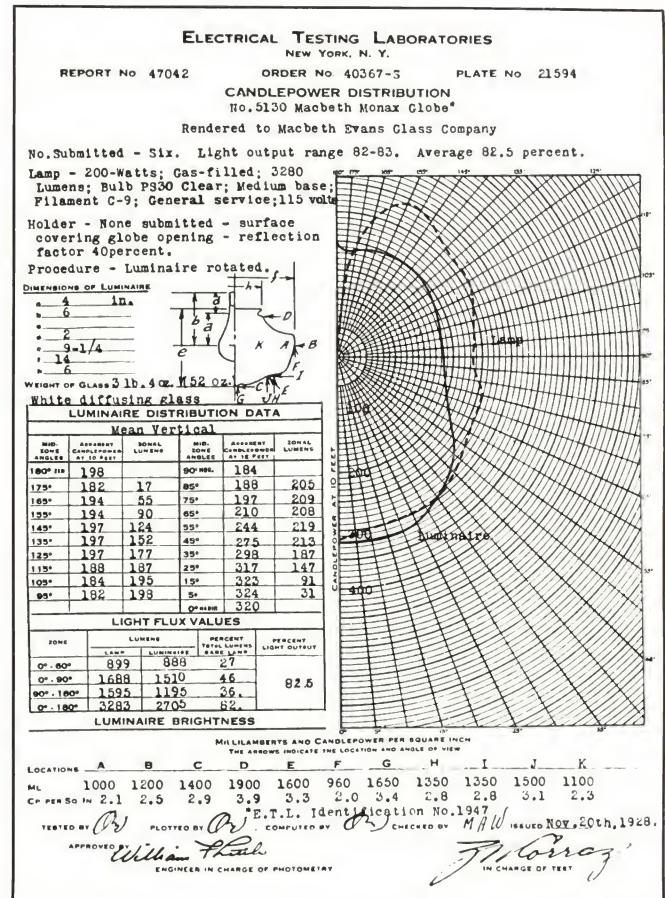
Mould No.	Description	Diam., in.	Depth, in.	Fitter diam., in.	*Lamp position, above, in.	Recommended wattage
3801	Monax	6	6 $\frac{5}{8}$	3 $\frac{1}{4}$	$\frac{1}{2}$	60
3802	Monax	8	8 $\frac{7}{8}$	4	zero	100
3803	Monax	10	11 $\frac{1}{4}$	5	zero	150
3804	Monax	12	13 $\frac{1}{2}$	6	zero	200
3805A	Monax	14	15 $\frac{1}{2}$	6	zero	300
3801	Cremax	6	6 $\frac{5}{8}$	3 $\frac{1}{4}$	$\frac{1}{2}$	60
3802	Cremax	8	8 $\frac{7}{8}$	4	zero	100
3803	Cremax	10	11 $\frac{1}{4}$	5	zero	150
3804	Cremax	12	13 $\frac{1}{2}$	6	zero	200
3805A	Cremax	14	15 $\frac{1}{2}$	6	zero	300

*Lamp position—Represents the distance in inches of the lamp contact above the plane of the fitter screws in the fixture. Zero indicates same plane as the fitter screws.



"The FLORENTINE"

THE Florentine in a complete range of sizes may be obtained in Monax glass, plain and decorated. Below is shown a reproduction of Electrical Testing Laboratories' report on 5130 Monax, tested according to the I.E.S. specifications. Results obtained from this test are representative for all sizes in Monax glass. Additional data will be furnished upon request.



TO SPECIFY

The architect should write into his own specification, data tabulated below under headings "Mould No." and "Description," thus, "Macbeth Florentine 5122 Monax." The brown, printed decoration with color permanently fired on glass as shown in bottom illustration may be applied to all sizes by adding J-104 after mould number. For example, "Macbeth Florentine 5123A J-104 Monax 12x4 inches."

Mould No.	Description	Diam., in.	Depth, in.	Fitter diam., in.	*Lamp position, above, in.	Recommended wattage
5122	Monax	9	5 7/8	4	1 1/2	100
5123	Monax	12	7 3/8	6	2	150
5123A	Monax	12	7 3/8	4	1 1/2	150
5130	Monax	14	9 1/16	6	2	200
5133	Monax	16	10 1/4	6	2	300
5138	Monax	18	11 1/2	8	3	500
5122	J-104 Monax	9	5 7/8	4	1 1/2	100
5123	J-104 Monax	12	7 3/8	6	2	150
5123A	J-104 Monax	12	7 3/8	4	1 1/2	150
5130	J-104 Monax	14	9 1/16	6	2	200
5133	J-104 Monax	16	10 1/4	6	2	300
5138	J-104 Monax	18	11 1/2	8	3	500

*Lamp position—Represents the distance in inches of lamp contact above plane of fitter screws in fixture.

MODERN LANTERNS AND BOWLS

A NEW Macbeth offering is Topaz glass. The two lanterns illustrated are manufactured from Topaz with a satin-etched background. The decorative treatment is transparent Topaz. These lanterns contribute an effective bit of decorative lighting to halls or sun rooms. Commercially they may be used to obtain interesting effects for tea rooms and gift shops or other installations requiring moderately colorful, yet decorative illumination.

The square ceiling bowl of Lumite (clear) glass, satin-etched outside, represents a type of lighting equipment used quite extensively in modernistic installations. These bowls may be used as single units or grouped in various combinations. The metal parts are obtainable from manufacturers of lighting fixtures.

TO SPECIFY

The architect should write into his own specification, the data tabulated below under the headings "Mould No." and "Description," thus, "Macbeth No. 5693 S7 Topaz" indicates the lantern illustrated at the top of the panel; "Macbeth No. 5694 S6 Topaz" indicates the lantern in the center illustration; "12143 Lumite Satin" describes the 12 $\frac{3}{4}$ " bowl shown at the bottom of the panel.

Mould No.	Description	Diam., in.	Depth, in.	Fitter diam., in.	*Lamp position, above, in.	Recommended wattage
5693	S-7 Topaz	7 $\frac{7}{8}$	12	4	$\frac{1}{2}$	150
5694	S-6 Topaz	9 $\frac{1}{2}$	11 $\frac{3}{8}$	4	1	100
12142	Lumite Satin	10 $\frac{3}{4}$	3 $\frac{3}{4}$			100
12143	Lumite Satin	12 $\frac{3}{4}$	4 $\frac{1}{2}$			150

*Lamp position—Represents the distance in inches of the lamp contact above the plane of the fitter screws in the fixture.



"The DIJON"

THE Dijon, a lantern of interesting design, may be obtained in three sizes. Three distinctive decorations on Cremax glass may be applied to all sizes. The colors are permanently fired on the glass.

TO SPECIFY

The architect should write into his own specification, the data under the headings "Mould No." and "Description" for the particular globe desired. This will automatically assure the selected size and decoration. For example, "Macbeth Dijon 4454 K-291 Cremax" indicates a lantern $7\frac{1}{2} \times 10\frac{3}{8} \times 4$ in. decorated as shown in the top illustration. "Macbeth Dijon 4470 K-284 Cremax" indicates a lantern $10 \times 13\frac{7}{8} \times 6$ in. with the decoration shown in the center illustration and "Macbeth Dijon 4477 K-108 Cremax" indicates a lantern $12 \times 16\frac{1}{2} \times 6$ in. with the Gothic decoration shown in the bottom illustration. All decorations are lightly etched on the glass.

Mould No.	Description	Diam., in.	Depth, in.	Fitter diam., in.	*Lamp position	Recommended wattage
4454	K-291 Cremax	$7\frac{1}{2}$	$10\frac{3}{8}$	4	zero	100
4470	K-291 Cremax	10	$13\frac{7}{8}$	6	zero	200
4477	K-291 Cremax	12	$16\frac{1}{2}$	6	zero	300
4454	K-284 Cremax	$7\frac{1}{2}$	$10\frac{3}{8}$	4	zero	100
4470	K-284 Cremax	10	$13\frac{7}{8}$	6	zero	200
4477	K-284 Cremax	12	$16\frac{1}{2}$	6	zero	300
4454	K-108 Cremax	$7\frac{1}{2}$	$10\frac{3}{8}$	4	zero	100
4470	K-108 Cremax	10	$13\frac{7}{8}$	6	zero	200
4477	K-108 Cremax	12	$16\frac{1}{2}$	6	zero	300

*Lamp position—Zero indicates that the lamp contact is in the same plane as the fitter screws of the fixture.

"The TERRELL" (ORIGINAL)

Etched and Decorated in Colors

DISTINCTLY "moderne" design by Miss Maude P. Terrell, erstwhile dramatic artist whose success in selling artistic lighting effects has been definitely established in metropolitan New York. This globe in Cremax glass is used in lighting the American Women's Association Building recently completed in New York.

In the table below K-308 indicates a lightly-etched and permanently-fired brown decoration on Cremax globes and D-121, lines of blue, green, brown, or black, fired colors around the steps of either Monax or Cremax globes. The first and second illustrations represent plain Cremax and Monax globes.

TO SPECIFY

The architect should write into his own specification, the data under the headings "Mould No." and "Description" for the particular globe desired. This will automatically assure the selected style, size, color, glass and decoration. For example "Macbeth Terrell 5651D-121 Cremax Black" will designate a Cremax globe, 14 in. in diameter, 10 $\frac{3}{16}$ in. in depth with a fitter 6 in. in diameter, the globe decorated with black lines permanently fired on the glass.

NOTE—Macbeth-Evans Glass Company is licensed by M. P. Terrell to manufacture and sell "The Terrell Globes" under U. S. Patent 77794.

Mould No.	Description	Diam., in.	Depth, in.	Fitter diam., in.	*Lamp position, above, in.	Recommended wattage
5649	Cremax or Monax	8	6 $\frac{1}{16}$	4	1 $\frac{1}{2}$	100
5652	Cremax or Monax	10	7 $\frac{5}{8}$	4	1 $\frac{1}{2}$	100
5653	Cremax or Monax	12	9	6	2	150
5653A	Cremax or Monax	12	9	4	1 $\frac{1}{2}$	150
5651	Cremax or Monax	14	10 $\frac{3}{16}$	6	2	200
5654	Cremax or Monax	16	11 $\frac{1}{2}$	6	2	300
5649	K-308 Cremax	8	6 $\frac{1}{16}$	4	1 $\frac{1}{2}$	100
5652	K-308 Cremax	10	7 $\frac{5}{8}$	4	1 $\frac{1}{2}$	100
5653	K-308 Cremax	12	9	6	2	150
5653A	K-308 Cremax	12	9	4	1 $\frac{1}{2}$	150
5651	K-308 Cremax	14	10 $\frac{3}{16}$	6	2	200
5654	K-308 Cremax	16	11 $\frac{1}{2}$	6	2	300
5649	D-121 Cremax or Monax	8	6 $\frac{1}{16}$	4	1 $\frac{1}{2}$	100
5652	D-121 Cremax or Monax	10	7 $\frac{5}{8}$	4	1 $\frac{1}{2}$	100
5653	D-121 Cremax or Monax	12	9	6	2	150
5653A	D-121 Cremax or Monax	12	9	4	1 $\frac{1}{2}$	150
5651	D-121 Cremax or Monax	14	10 $\frac{3}{16}$	6	2	200
5654	D-121 Cremax or Monax	16	11 $\frac{1}{2}$	6	2	300

*Lamp position—Represents the distance in inches of the lamp contact above the plane of the fitter screws in the fixture.



MODERNISTIC SHADES AND CUBE GLOBES

THE shades at the top of the panel may be used effectively for auxiliary lighting with "The Modernistic" globes illustrated on page six. Conservative in design they are also suitable for any lighting installation of modernistic influence, which requires bracket lights or central luminaires with upright shades.

The Monax shades are lightly toned with gray and the Cremax with brown.

The third illustration from the top 2306 D-133, represents the French influence in modernistic lighting. It is made from Cremax glass decorated with a colorful floral spray. The shade can be used on individual brackets or grouped effectively on a central luminaire which has been fitted with an upright holder, similar in type to the "gallery" of an oil lamp.

The next three illustrations represent a five-step shade. They may be obtained in plain Monax or Cremax glass and with decorations to match the "Terrell" globes on page eighteen. D-121 indicates a lined decoration applied to the steps of the shades in blue, green, brown or black on Monax or Cremax glass. K-308 indicates a modernistic brown decoration and is standard in Cremax glass only. All colors applied to the glassware illustrated on this page are permanently fired on the glass.

The bottom illustration represents a square globe made in a range of sizes from Monax glass. These may be used where lighting effects of geometric design are desirable.

TO SPECIFY

The architect should write into his own specification, the data under the headings "Mould No." and "Description" for the particular glass desired. This will automatically assure the selected size, color, glass and decoration. For example, "Macbeth 2324 D-144 Cremax" will designate the shade in Cremax glass with brown tone as illustrated at the top of panel. "Macbeth 2306 D-133 Cremax" will designate the shade illustrated third from the top of the panel. "Macbeth 2266 D-121 Monax Black" will designate a five-step shade in Monax glass with black lines around the steps. "Macbeth 12089 Monax" will designate a 7-inch cube globe with a 4-inch fitter.

Mould No.	Description	Diam., in.	Depth, in.	Fitter diam., in.	Outside diam. bottom opening in.	Recommended wattage
2324	D-144 Cremax	4 $\frac{3}{16}$	5 $\frac{7}{8}$		1 $\frac{3}{4}$	40
2324	D-144 Monax	4 $\frac{3}{16}$	5 $\frac{7}{8}$		1 $\frac{3}{4}$	40
2306	D-133 Cremax	4 $\frac{7}{8}$	6 $\frac{1}{16}$		1 $\frac{3}{4}$	40
2266	Monax or Cremax	4	4 $\frac{1}{4}$	2 $\frac{1}{4}$		40
2266	D-121 Monax or Cremax	4	4 $\frac{1}{4}$	2 $\frac{1}{4}$		40
2266	K-308 Cremax	4	4 $\frac{1}{4}$	2 $\frac{1}{4}$		40
12087	Monax	4 $\frac{3}{8}$	4 $\frac{3}{8}$	3 $\frac{1}{4}$		40
2347	Monax	6	6	3 $\frac{1}{4}$		50
12089	Monax	7	6	4		60
12088	Monax	8	8	4		100

Romanesque Stalactites and Shallow Bowls in CREMAX GLASS

ROMANESQUE stalactites in a variety of sizes are especially suitable for church lighting. They are regularly supplied only in Cremax glass.

In the table below you will note that the shallow bowls may be secured in plain or iridescent Cremax; D-121 black, fired-color lines; K-300 decoration, a light etching in black with touches of red, fired colors; K-301 light-etched design in brown, fired color. The bowls will be drilled with a $\frac{1}{2}$ -inch hole in the center for supporting stem unless other drilling is specified.

TO SPECIFY

The architect should write into his own specification, the data under the headings "Mould No." and "Description" for the particular glass desired. This will automatically assure the selected style, size, color, glass and decoration. For example, "Macbeth Romanesque Stalactite 4683 Cremax" will designate a Cremax stalactite with 6-in. diameter, 11-in. depth, with a fitter diameter of 6 in., or "Macbeth Shallow Bowl 5013 K-300 Cremax" will designate a Cremax bowl 14 in. in diameter, $4\frac{1}{16}$ in. in depth, with K-300 light-etched decoration and $\frac{1}{2}$ -in. hole drilled in the center of the bottom.

Mould No.	Description	Diam., in.	Depth, in.	Fitter diam., in.	Recommended wattage
2346	Cremax Stalactite	4	6	4	60
4468	Cremax Stalactite	4	8	4	100
4682	Cremax Stalactite	5	$9\frac{1}{2}$	5	100
4683	Cremax Stalactite	6	11	6	150
4686	Cremax Stalactite	7	14	7	200
4684	Cremax Stalactite	8	16	8	300
4685	Cremax Stalactite	9	14	9	200
4691	Cremax Stalactite	9	18	9	500
4695	Cremax Stalactite	10	20	10	750
9007	Cremax Bowl	8	$3\frac{1}{8}$		40
4999	Cremax Bowl	10	$3\frac{1}{8}$		100
5012	Cremax Bowl	12	$3\frac{3}{4}$		100
5013	Cremax Bowl	14	$4\frac{1}{16}$		150
5014	Cremax Bowl	16	5		200
9007	Cremax, Iridescent Bowl	8	$3\frac{1}{8}$		40
4999	Cremax, Iridescent Bowl	10	$3\frac{1}{8}$		100
5012	Cremax, Iridescent Bowl	12	$3\frac{3}{4}$		100
5013	Cremax, Iridescent Bowl	14	$4\frac{1}{16}$		150
5014	Cremax, Iridescent Bowl	16	5		200
9007	D-121 Cremax Bowl	8	$3\frac{1}{8}$		40
4999	D-121 Cremax Bowl	10	$3\frac{1}{8}$		100
5012	D-121 Cremax Bowl	12	$3\frac{3}{4}$		100
5013	D-121 Cremax Bowl	14	$4\frac{1}{16}$		150
5014	D-121 Cremax Bowl	16	5		200
9007	K-300 Cremax Bowl	8	$3\frac{1}{8}$		40
4999	K-300 Cremax Bowl	10	$3\frac{1}{8}$		100
5012	K-300 Cremax Bowl	12	$3\frac{3}{4}$		100
5013	K-300 Cremax Bowl	14	$4\frac{1}{16}$		150
5014	K-300 Cremax Bowl	16	5		200
9007	K-301 Cremax Bowl	8	$3\frac{1}{8}$		40
4999	K-301 Cremax Bowl	10	$3\frac{1}{8}$		100
5012	K-301 Cremax Bowl	12	$3\frac{3}{4}$		100
5013	K-301 Cremax Bowl	14	$4\frac{1}{16}$		150
5014	K-301 Cremax Bowl	16	5		200



DECORATIVE MONAX GLOBES and SHADES for Kitchen and Bathroom

THE first illustration represents No. 5257 Monax globe with D-56 green-banded decoration. Immediately below is illustrated No. 1623 A D-56 seven-inch open shade to match. The right center illustration represents No. 4221 D-56 bracket shade. The same shade in plain Monax glass is shown just below and can also be furnished in Cremax glass. The decorated glassware is standard in green, but can be supplied in other colors when required. The illustration at left center represents No. 2266 D-143 Monax shade with decoration in green-tiled effect, with No. 5649 D-143 globe to match at the bottom of panel. D-143 design is also standard in green, but can be furnished in other colors when required. All colors are permanently fired on the glass.

TO SPECIFY

The architect should write into his own specification, the data under the headings "Mould No." and "Description." This will automatically assure the correct style, size, color and decoration. Specifications should read for example, "Macbeth No. 5257 D-56 Monax green." "Macbeth 2266 D-143 Monax green."

Mould No.	Description	Diam., in.	Depth, in.	Fitter diam., in.	*Lamp position, above, in.	Recommended wattage
5257	D-56 Monax Green	9	6 ³ / ₈	4	1 ¹ / ₂	100
1623A	D-56 Monax Green	7	5	2 ¹ / ₄		50
4221	D-56 Monax Green	6	3 ⁷ / ₃₂	2 ¹ / ₄		40
4221	Monax or Cremax	6	3 ⁷ / ₃₂	2 ¹ / ₄		40
2266	D-143 Monax Green	4	4 ¹ / ₂	2 ¹ / ₄		25 to 60
5649	D-143 Monax Green	8	6 ¹ / ₁₆	4	1 ¹ / ₂	100

*Lamp position—Represents the distance in inches of the lamp contact above the plane of the fitter screws in the fixture.

MONAX and ALBA HEMISPHERES and SHADES

THE first illustration represents a Monax lip-type blown hemisphere which can also be supplied in Cremax glass. The bottom illustration represents a ribbed hemisphere of pressed Alba glass. These are for use particularly with hinged, close ceiling bands where unusually low ceilings prevail. The illustration second from the top, represents the "Bowl-type" shade, obtainable in three sizes. The illustration third from the top represents the ever useful "Mission Bell type" blown shade, available in four sizes. Both types are made from Monax glass. The next three illustrations represent pressed Alba shades, the first a "Bell type" and the second a "Flat type," both with ribs and scalloped edges, the third a "Bell type" with plain edge. These are available in a number of sizes as shown in the table below.

TO SPECIFY

The architect should write into his own specification, the data under the following headings, "Mould No." and "Description." This will automatically assure the correct style, size and glass. Specifications should read for example "165 Monax hemisphere," "5383 Alba ribbed hemisphere."

Mould No.	Description	Diam., in.	Depth, in.	Fitter diam., in.	Recommended wattage
175	Monax or Cremax Hemisphere	8	4		60
165	Monax or Cremax Hemisphere	10	5		100
160 A	Monax or Cremax Hemisphere	12	6		150
5307	Monax Bowl Type	6 1/4	4 3/4	2 1/4	40
1623A	Monax Bowl Type	7	5	2 1/4	50
5308	Monax Bowl Type	8	5 3/4	2 1/4	60
1358	Monax Mission Bell	4 1/2	4 1/8	2 1/4	25
1391	Monax Mission Bell	6	4 1/4	2 1/4	40
1460	Monax Mission Bell	7	4 1/2	2 1/4	50
1461	Monax Scalloped Bottom	8	5	2 1/4	60
3419	Alba Scalloped Bottom	5 1/8	3 3/8	2 1/4	25
3420	Alba Scalloped Bottom	5 3/4	4 3/8	2 1/4	40
3424	Alba Scalloped Bottom	7 1/4	4 3/4	2 1/4	50
3429	Alba Scalloped Bottom	8 1/4	6	2 1/4	60
3446	Alba Scalloped Bottom	10 3/8	6 3/4	3 1/4	100
3431	Alba Flat Type	7 3/4	3 1/8	2 1/4	50
3432	Alba Flat Type	9	3 1/8	2 1/4	60
3438	Alba Flat Type	11	4 3/8	2 1/4	100
3816	Alba Plain Bottom	6 5/8	4 1/8	2 1/4	40
3817	Alba Plain Bottom	7 1/4	4 1/4	2 1/4	50
3818	Alba Plain Bottom	8 1/2	5 3/8	2 1/4	60
3819	Alba Plain Bottom	10 1/4	6 3/4	3 1/4	100
3484	Alba Ribbed Hemisphere	8	4		60
5382	Alba Ribbed Hemisphere	10	5		100
5383	Alba Ribbed Hemisphere	12	6		150
5385	Alba Ribbed Hemisphere	14	7		200
3461	Alba Ribbed Hemisphere	16	8		300



